

JP04179949

AN 1992-263762 [32] WPIX  
DNN N1992-201756 DNC C1992-117646

5 TI Pyrrolo thiophene cyan dye-forming couplers - for photographic materials  
having excellent colour reproducibility.  
DC E24 G06 P83  
PA (FUJF) FUJI PHOTO FILM CO LTD  
CYC 1

10 PI JP---04179949 A 19920626 (199232)\* 25 <--  
ADT JP---04179949 A 1990JP-0307241 19901115  
PRAI 1990JP-0307241 19901115  
AN 1992-263762 [32] WPIX  
AB JP 04179949 A UPAB: 19931025

15 Cyan dye-forming couplers of formula (I), and (II) are new. R1, R2 and R3  
are independently H or a substit. gp.; X = H or a gp. capable of splitting  
off by coupling reaction with the oxidn. prod. of an aromatic prim. amine  
deriv. Ag halide colour photographic materials contg. (I) or (II) are also  
claimed.

20 R1 is e.g. halogen, 1-3C aliphatic gp., 6-3C aryl gp., heterocycl,  
alkoxy, aryloxy, etc. R2 and R3 are pref. electron-attracting gp. having  
Hammett's sigma p value of at least 0.35 (e.g. CN, acyl, carboxyl,  
carbamoyl, NO<sub>2</sub> or sulphamoyl). X is e.g. halogen, alkoxy, aryloxy,  
sulphonyloxy, acylamino, heterocycl etc.

25 ADVANTAGE - (I) and (II) can form cyan dyes having excellent  
absorption characteristics and high fastness.  
In an example of the prepn., to 50 ml of an ethanol soln. contg. 25.0  
mmol of (I-1) was added 1 ml of pyrrolidone. To this was further added  
dropwise 25.0 mmol of (I-2). The mixt. was heated for 8 hrs. under reflux.

30 The reaction prod. was purified by silica gel chromatography. Thus, 13.6  
mmol of (I-3) was obtnd. in a yield of 54.4%. 10.0 mmol of (I-3) was  
dissolved in 10 g of triethyl phosphite, and heated for 5 hrs. under  
reflux. The reaction prod. was purified by silica gel chromatography to  
give 4.53 mmol of (I-4) (yield: 45.3%). When R1 = H, R2 = ethoxycarbonyl.  
R3 = dodecyloxycarbonylphenyl and X = H, the product has m.pt. of 128-132  
deg.C.